

The BNHS/WHO Bird Migration Study Project—4

Activities from 13-9-1963 to 23-3-1964

BY

SÁLIM ALI

Chief Investigator, BNHS/WHO Bird Migration Study Project

[Continued from Vol. 60 (2): 414]

Three field camps were conducted during the year 1963-64 migration season: (1) at Hingolghadh, Saurashtra, 13-22 September, (2) at Bharatpur, Rajasthan, 21 September to 13 October, (3) at Edanad, Kerala, 26 November 1963 to 5 February 1964; and Mr. P. V. George made an exploratory visit to Bihar extending from 31 January to 23 March 1964.

1. HINGOLGADH, SAURASHTRA: 13-22 SEPTEMBER 1963

The physiography of the netting area is described in the report for spring 1960 [*J. Bombay nat. Hist. Soc.* 59 (1): 111]. Yuvraj Shivraj-kumar of Jasdan was again in charge of the activities here. In the 10 days' netting 153 migratory and 67 non-migratory birds were ringed, belonging to 23 and 20 species respectively. The main purpose was to further substantiate the previous finding that individual migrants tend to return to the same wintering areas year after year. Confirmation was amply provided by the interesting recapture on 14-9-1963 of an Orpheat Warbler (*Sylvia hortensis*) ringed in almost the identical netting site exactly three years before—on 13-9-1960. Two other individuals of the same species ringed during the previous autumn (24 and 25 September 1962) were also recaptured in the same place on 20 and 21 September 1963. These instances, together with the two similar recaptures detailed on pages 927 and 963 of Vol. 59 (3) of the *Journal* are fairly conclusive evidence that this species returns year after year to the same winter quarters, or at least follows a very restricted route to wherever its ultimate winter destination in India may lie.

2. BHARATPUR, RAJASTHAN: 21 SEPTEMBER TO 13 OCTOBER 1963

Evidence of similar parochiality in the case of resident birds was provided by a Goldenbacked Woodpecker, *Dinopium benghalense*, caught and ringed near Shanti Kutir Forest Rest House on 16-9-1961

and recaptured on 22-9-1963, i.e. 2 years later, in the selfsame acre or two.

The netting in Bharatpur was done by a field party of the BNHS, chiefly in the wagtail roosting area of sugarcane cultivation described in *J. Bombay nat. Hist. Soc.* 59 (3): 927. Even though a vast expanse of flooded sugarcane fields was available for roosting, only certain portions of it were patronized by the birds. Some of these were shared with Red-headed Buntings (*Emberiza bruniceps*), Sparrows (*Passer domesticus indicus* and *P. d. parkini*), Weaver Birds (*Ploceus philippinus* and *P. benghalensis*), and Swallows (*Hirundo rustica*). At such mixed roosts the order of arrival was noted as follows: first Buntings, Sparrows, and Weaver Birds a few minutes before sunset; then Wagtails, dropping in till 15 minutes or so after sunset; followed, lastly, by swallows when almost dark. Thus, for catching all the species at such mixed roosts it was necessary to work the nets differentially, i.e. open them for swallows only after the buntings and wagtails had more or less settled for the night. Otherwise, the nets got so full and sagging with the earlier arriving species that the swallows just bounced back from them without getting 'bagged'. During the 20 days of actual netting in Bharatpur a total of 2782 migratory birds were ringed (list below). Three days were lost in exploring the possibilities of netting wading birds, of which enormous quantities—especially Ruff and Reeve (*Philomachus pugnax*)—had made their appearance by the third week of September. They were feeding in vast tantalizing congregations on the freshly-drained squelchy marshland above Ajan Bund. Apparently, however, our technique was all wrong; the effort proved disappointing and after three days of unsuccessful work was reverted to the wagtails.

TABLE I
LIST OF MIGRANTS (10 AND ABOVE) RINGED BETWEEN
13 SEPTEMBER AND 13 OCTOBER 1963

Species	Hingolghadh	Bharatpur
<i>Tringa glareola</i> ..	—	11
<i>Riparia riparia diluta</i> ..	—	10
<i>Hirundo rustica</i> ..	—	220
<i>Muscicapa striata</i> ..	19	—
<i>Sylvia communis</i> ..	60	—
<i>Sylvia curruca</i> ..	10	—
<i>Erithacus svecicus</i> ..	—	36
<i>Motacilla flava beema</i> ..	—	609
———— <i>thunbergi</i> ..	—	138
———— <i>ssp.</i> ..	—	1057
———— <i>citreola</i> ..	—	201
———— <i>citreola</i> (?) ..	—	22
———— <i>alba personata</i> ..	—	36
<i>Passer domesticus parkini</i> ..	—	30
<i>Carpodacus erythrinus</i> ..	—	14
<i>Emberiza bruniceps</i> ..	—	227

TABLE II
BIRDS EXAMINED AT BHARATPUR AND HINGOLGADH FOR TICKS, AND THE RESULTS

Species	Total examined	No. positive	Species of Tick
<i>Mirafra erythroptera</i>	?	1	<i>Hyalomma marginatus isaaci</i> (nymphs)
<i>Hirundo fluvicola</i>	123	3	<i>Ornithodoros</i> sp. (larvae)
<i>Sturnus roseus</i>	6	3	<i>H. m. isaaci</i> (nymphs) & <i>Haemaphysalis kutchensis</i> (nymphs)
<i>Pycnonotus cafer</i>	?	2	<i>H. kutchensis</i> (nymphs)
<i>Muscicapa striata</i>	19	1	(no report)
<i>Sylvia communis</i>	60	1	<i>H. kutchensis</i> (larvae)
<i>Phoenicurus ochruros</i>	3	1	<i>H. m. isaaci</i> (nymphs) & <i>H. kutchensis</i> (nymphs)
<i>Erithacus svecicus</i>	35	1	<i>H. m. issaci</i> (larvae)
<i>Saxicoloides fulvicata</i>	?	7	<i>H. kutchensis</i> (larvae and nymphs)
<i>Motacilla flava</i> ssp.	987	7	<i>H. m. isaaci</i> (larva & nymph), <i>Hyalomma</i> sp. ? (nymphs) & <i>H. kutchensis</i> (larvae & nymphs)
————— <i>beema</i>	571	9	<i>H. m. isaaci</i> (larva & nymph), <i>Hyalomma</i> sp. ? (nymphs) & <i>H. kutchensis</i> (nymphs)
————— <i>citreola</i> (?)	?	1	<i>H. m. isaaci</i> (nymph)
————— <i>alba</i> ssp.	3	1	do.
————— <i>dukhunensis</i>	6	1	do.

TICKS

At Hingolghadh ticks were obtained from 16 of the 219 migratory as well as resident birds examined (c. 7.3%); in Bharatpur only 20 from 1813 (c. 1.1%) migrants. Of the 215 resident birds (22 species) examined in Bharatpur 3 *Hirundo fluvicola* were found positive for ticks. A list of birds examined, and the results, are given in Table II.

The larvae taken from a cliff swallow, *Hirundo fluvicola*, in Bharatpur [Mar./Apr. 1963—*J. Bombay nat. Hist. Soc.* 60 (2): 413] have been identified as those of the tick *Ornithodoros* sp.

BLOOD SAMPLES

In addition to tick collection, blood samples from about 250 birds of the following species were taken on filter paper discs for antibody studies in the U.S.S.R. This was in response to the suggestions received from Prof. G. I. Netzky, following his visit to the Bharatpur field camp in September 1962 at WHO's invitation in order to devise methods for profitable coordination of our project activities with virological studies in Russian laboratories. Prof. Levkovitch's comments on the collection are awaited with interest.

Species bled: *Motacilla flava beema*, *M. f. thunbergi*, *M. f. melano-grisea*, *M. citreola*, *M. alba dukhunensis*, *M. a. personata*, *Hirundo rustica*, *Emberiza bruniceps*, *Erithacus svecicus*, *Passer domesticus parkini*, *Riparia diluta*.

Unfortunately it has not been possible as yet to make a proper beginning with Rosy Pastors or wading birds, but it is hoped to start ringing wagtails, swallows, and other reedbed-roosting species in the Calcutta Salt Lake area during the current season with the assistance of local volunteers.

3. THE EDANAD WAGTAIL ROOST, KERALA: 26 NOVEMBER 1963 TO 5 FEBRUARY 1964

In November and the early half of December wagtail concentration at Edanad was as big as those in previous years. The rotation of crops had brought about a change of layout, with crops of sweet potatoes where sugarcane had been and vice versa, but the volume of sugarcane grown on the island remained more or less the same. Till January 6th the sugarcane fields in Edanad were the netting sites. Towards the last quarter of December the number of wagtails roosting at Edanad dropped considerably and from January 7th the team switched

over to a new roost at Mangalam, a village near Chengannur. Situated about a mile west of Edanad, and across the northern channel of Pumba, Mangalam has fewer sugarcane plantations than Edanad, but the wagtails here suffer less disturbance from man and animals. The number of wagtails roosting at Mangalam remained fairly constant throughout. Netting was very effective in the first five days, with an average catch of about 30 birds per net. From January 11th, the catch per net at Mangalam decreased appreciably, while the wagtail population at Edanad again began to increase. From that day to the end of camp (5 February), the team worked in two units (at both Edanad and Mangalam) netting on an average about 275 birds in the morning and about 150 in the evening sessions.

Ringling and releasing

In the morning sessions birds were ringed and released from the compound of the Mar Thoma Church, Edanad. Birds of the evening sessions were ringed at the camp and released immediately into sugarcane fields near the church, choosing fields of larger area so as to avoid overcrowding.

The collection

The two races of the Yellow Wagtail, viz. the Blueheaded (*beema*) and the Greyheaded (*thunbergi*), were most abundant and made up 60.78 per cent of the number ringed this season. Compared with the collection of the last two seasons, the increase in the catch of Forest Wagtails (5.59% of this season's catch) and Yellowheaded Wagtails, *M. citreola*, (7.86% of this season's catch) is noteworthy. As in the previous year, about a hundred white wagtails had an exclusive roost of their own, in sugarcane near the Mar Thoma Church, Edanad. This season 69 birds of this species were ringed, and 7 of the 29 white wagtails ringed in the same spot last year were recaptured. Swallows sharing the roost with wagtails was a novel feature for Edanad, not seen before.

In 64 days of netting (from 26th November 1963 to 5th February 1964) 21,881 wagtails and 39 swallows were ringed making up an aggregate of 21,920 birds for the season.

The total of the wagtails is broken up as follows :

TABLE III
WAGTAILS RINGED AT EDANAD, EXAMINED FOR TICKS, AND THE RESULTS

Species	No. ringed	No. examined for parasites	No. positive	Species of tick
<i>Motacilla indica</i> ..	1224	1216	nil	—
<i>Motacilla flava thunbergi</i> ..	7377	7300	8	<i>Hyalomma marginatus isaaci</i> (3 nymphs, 3♂, 2♀)
----- <i>beema</i>	5927	5891	2	do. (1♂, 1♀)
----- <i>melano-grisea</i> ..	23	23	nil	—
----- <i>simillima</i> ?	240	240	nil	—
----- ssp. ..	5296	5242	1	<i>Hyalomma marginatus isaaci</i> (gynandromorph)
----- <i>citreola</i> ..	1722	1707	nil	—
----- <i>caspica</i> ..	3	3	nil	—
----- <i>alba dukhunensis</i> ..	69	69	nil	—
Total ..	21,881	21,691	11	

The 37 swallows (*Hirundo rustica*) examined were completely free from ticks.

Recaptures of ringed birds

In all, 441 wagtails which had been previously ringed by us were recaptured at Edanad and Mangalam. All but two of them were birds ringed in Kerala and in the following proportion :

TABLE IV
YEARWISE DETAILS OF RECAPTURED WAGTAILS

Year of ringing	Total no. ringed	Total no. of recaptures between 26-11-63 and 5-2-64
1961 Nov.-1962 Jan. ..	1900	8
1962 March ..	4066	25
1962 Dec.-1963 Feb. ..	20,369	158
1963 Nov.-1964 Feb. ..	21,881	250

Besides the above, two wagtails ringed by us elsewhere in India were recovered with the Kerala birds. Their particulars are as follows :

(1) A-38994 *Motacilla flava? thunbergi* ringed 27-5-1963 in 24 Parganas Dist., W. Bengal, recovered at Edanad on 29-11-1963.

(2) A-15897 *Motacilla citreola?* ringed 4-10-1962 at Bharatpur, Rajasthan, recovered at Mangalam on 13-1-1964.

These recoveries along with the previously reported ones from Kazakhstan, Afghanistan, and NW. Pakistan constitute important sign-posts in the general pattern of wagtail migration in India.

Examination for external parasites

Ninety-nine per cent. of the birds ringed this season were examined for external parasites, and 11 ticks were collected up to 7th January, but none after this date in spite of a more thorough search.

Collection of blood samples

446 ringed birds which could be identified subspecifically with certainty were bled for samples for virological investigation by Kievskae Shosee Institute of Poliomyelitis and Virus Encephalitis, Moscow. Blood was drawn from incisions made near the base of the claws without any crippling injury to the birds.

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4. NORTH BIHAR : 31 JANUARY TO 23 MARCH 1964

Mr. P. V. George visited Bihar to explore the possibilities of extending the Project activities to that area, particularly to waders (Charadriiformes) and ducks. He surveyed the area from the Ganges up to the India-Nepal border of central northern Bihar. His interesting report will be published separately.

With the help of local trappers Mr. George was able to ring nine hundred and four birds of the following twentyfive species :

TABLE V
BIRDS RINGED IN MANJHAUL (MONGHYR DIST.)

<i>Anas crecca</i>	..	..	239
<i>Anas querquedula</i>	..	..	19
<i>Anas clypeata</i>	..	..	9
<i>Nettapus coromandelianus</i>	..	..	1
<i>Pluvialis dominica</i>	..	..	11
<i>Charadrius dubius</i>	..	..	1
<i>Charadrius mongolus</i>	..	..	3
<i>Tringa glareola</i>	..	..	90
<i>Tringa totanus</i>	..	..	1
<i>Tringa ochropus</i>	..	..	2
<i>Capella stenura</i>	..	..	11
<i>Capella gallinago</i>	..	..	82
<i>Capella minima</i>	..	..	3
<i>Calidris minutus</i>	..	..	25
<i>Calidris temminckii</i>	..	..	27
<i>Philomachus pugnax</i>	..	.	1
<i>Rostratula benghalensis</i>	..	..	2
<i>Himantopus himantopus</i>	..	..	3
<i>Jynx torquilla</i>	..	..	1
<i>Calandrella cinerea</i>	..	..	303
<i>Erithacus svecicus</i>	..	..	9
<i>Saxicola torquata</i>	..	..	2
<i>Motacilla flava</i>	..	..	15
<i>Motacilla citreola</i>	..	..	35
<i>Motacilla alba</i>	..	..	9

Recovery of a ringed Teal

An interesting recovery at Srinagar, Kashmir, on 15 March 1964 of a Teal (*Anas crecca*) ringed by him in Manjhaul (6-2-1964) suggests a rather unusual direction of flight.

Collection of blood samples

Blood samples were collected from *Anas crecca*, *A. querquedula*, *A. clypeata*, *Aythya ferina*, *Tringa glareola*, *Capella gallinago*, *Fulica atra*, and *Calandrella cinerea* for virological examination by Kievskae Shosee Institute of Poliomyelitis and Virus Encephalitis, Moscow.

Possibilities of ringing in north Bihar

North Bihar seems to offer excellent possibilities for bird migration studies. Ringing at the beginning of winter and subsequent recoveries in other parts of the country may provide information on the dispersal of birds within India.

For waders and ducks the best time would appear to be from mid-November to the middle of January. 'Daylight roosting' places of these birds should also afford chances of large scale netting. For large scale ringing of Short-toed Larks the best time is reportedly March and April. It is hoped to exploit these opportunities in the winter of 1964-65.

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